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Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

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In the Matter of

Application of Ameritech  
Michigan Pursuant to Section  
271 of the Telecommunications  
Act of 1996 to Provide In-  
Region, InterLATA Services in  
Michigan

CC Docket No.

97-1

Volume 3.3:

Joint Affidavit of Robert G. Harris and David J. Teece  
on Behalf of Ameritech Michigan

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## **PUBLIC VERSION**

### **I. INTRODUCTION**

#### **A. *Purpose of Affidavit***

In this affidavit we provide an economic framework for examining facilities-based competition in local exchange and exchange access services. We apply that framework to demonstrate that, in Michigan, Ameritech currently faces competition for business and residential subscribers of local exchange and exchange access services from companies using their own facilities. In addition, we enumerate and discuss the benefits of Ameritech's entry into the interLATA business. The evidence presented here and in other expert affidavits demonstrates that Ameritech's entry will indeed serve the public interest, convenience and necessity, and will lead to a substantial increase in consumer welfare. See 47 U.S.C. § 271(d)(3)(C).

#### **B. *Organization and Summary of Affidavit***

In Section II, we discuss how the Telecommunications Act of 1996 ("Act") opens the door to competition in the local exchange business and how facilities-based competition is likely to develop based on the Act and economic factors. In Section III, we assess the openness of the local exchange market to competition, and explain how the Act, consumer preferences, and advancing technology affect competitive entry. In Section IV, we examine the state of local exchange competition in Michigan by evaluating Ameritech's provisioning data and by examining aspects of the entrants themselves. We also review the statements and actions of potential competitors and infer from them potential entry plans. Finally, in Section V, we evaluate the benefits of permitting Ameritech to provide in-region interLATA service in Michigan from a public interest and consumer welfare perspective. We present our conclusions in Section VI.

## II. LOCAL COMPETITION AND INTERCONNECTION

### A. *The Telecommunications Act of 1996 Opens the Door to Competition*

The Telecommunications Act of 1996 accelerates the move toward more competitive telecommunications markets by easing entry requirements in all segments. Prior regulatory policies had "compartmentalized" telecommunications industries and protected firms in various lines of business from competitive entry by firms in other lines of business. For example, cable TV and long distance carriers could not enter the local exchange business, and local exchange carriers could not enter the cable TV or long distance business.

The central tenet of the Act is that all telecommunications companies should now be allowed to compete in any and all lines of the telecommunications business. By allowing and promoting competition in all telecommunications services, the Act aims to increase consumer choice; promote investment in the nation's information infrastructure; and provide incentives for competitive pricing, innovation, and new services. The Act also provides a framework for interconnection between new entrants and incumbent local exchange carriers in recognition of the fact that the multiple operators of the emerging "network-of-networks" must cooperate to ensure that the nation's information infrastructure and telecommunications systems will continue to be the most advanced and reliable in the world.

The Act promotes competition by eliminating the legal and regulatory impediments to competition and entry across lines of business. For example, many states had historically prohibited competition in local exchange services and cable TV services by granting monopoly franchises to the incumbent suppliers. Similarly, the AT&T Consent Decree

prohibited the Bell Operating Companies (BOCs), such as Ameritech, from manufacturing telecommunications equipment or offering interLATA services in competition with AT&T and other interexchange carriers (IXCs). The Act provides for a process to sweep away the legal and regulatory impediments to competition and cross-entry.

The Act also has several provisions specifically aimed at assisting new entrants. First, the Act requires that the incumbent company interconnect its network with the networks of the entrants, and exchange traffic across networks so that customers of a new entrant can complete calls to customers of Ameritech or any other carrier. Second, the Act requires that incumbent local exchange companies lease components of their networks to competing carriers upon request. The facilities can be purchased (leased) separately or in combination and used along with an entrant's self-provided facilities to provide exchange service. Third, the Act requires that the incumbent offer its retail telecommunications services to competitors at discounted wholesale prices. By purchasing services at a discount and reselling these services, entrants can offer customers any retail telecommunications service that the incumbent provides, without having to invest in any self-provided infrastructure.

In addition to removing entry barriers across lines of business and assisting entry into the local exchange market through the unbundling, interconnection, and resale requirements imposed on the incumbent, the Act also establishes safeguards to ensure that, during the transition to full competition, incumbents cannot discriminate against competitors. One safeguard is the requirement that BOCs provide interexchange service through a separate

subsidiary.<sup>1/</sup> A second safeguard is the requirement that wholesale services and unbundled network elements be offered to new entrants on a nondiscriminatory basis. For example, the Act requires that transactions between the Section 272 long distance subsidiary and its BOC affiliate be made at the same price and under the same terms and conditions as BOC transactions with competitors.<sup>2/</sup> Third, the Act gives the FCC authority to impose a penalty or revoke approval for interLATA service if a BOC fails to meet the requirements for entry into interLATA service on an ongoing basis.<sup>3/</sup> These three safeguards are in addition to the safeguards already applied by the Michigan Public Service Commission (MPSC) in its regulation of Ameritech's intrastate services and the safeguards imposed by the FCC in its regulation of interstate access services.

By eliminating institutional and even efficiency-based "entry barriers" (through the unbundled network element, interconnection, and resale requirements), and by adding regulatory safeguards (such as the nondiscrimination and separate subsidiary requirements) the Act protects customers of both local exchange and long distance services from any alleged risk associated with BOC entry into in-region interLATA service.

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<sup>1/</sup> 47 U.S.C. § 271(a)(1).

<sup>2/</sup> See 47 U.S.C. § 251(c)(3) and (4).

<sup>3/</sup> 47 U.S.C. § 271(d)(6)(A)(iii).

***B. Facilities-based Competition in Local Exchange Services***

Under the Act, a BOC can obtain authorization from the FCC to provide in-region interLATA services if the BOC has an approved interconnection agreement with one or more local competitors that serve business and residential customers in the BOC's service territory "either exclusively over their own telephone exchange service facilities or predominantly over their own telephone exchange service facilities in combination with the resale of the telecommunications services of another carrier."<sup>4/</sup> Notably, however, while the Act states that the existence of a facilities-based competing provider is an avenue for BOCs to enter long distance, it specifically avoids using market share metrics or requiring any particular level of competition. Rather, the existence of a facilities-based carrier or carriers serving business and residential customers primarily over their own facilities is sufficient.

There are practical economic reasons for adopting this approach. First, as David Turetsky, Deputy Assistant Attorney General of the Antitrust Division of the Department of Justice, observed, "a rigid metric test might be gamed by one party or another, and it could demand more of the Bell—or less—than is necessary to secure open markets and competition."<sup>5/</sup>

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<sup>4/</sup> 47 U.S.C. § 271(c)(1)(a). The Act also sets out a process for BOC entry when facilities-based local competition does not yet exist. See 47 U.S.C. § 271(c)(1)(B).

<sup>5/</sup> "Bell Operating Company InterLATA Entry Under Section 271 of the Telecommunications Act of 1996: Some Thoughts," Remarks by David Turetsky, Deputy Assistant Attorney General, Antitrust Division, U.S. Department of Justice, before the Communications Committee NARUC Summer Meeting, Los Angeles, California, July 22, 1996.

Second, there is no market share metric that can properly calibrate competition in the telecommunications service business today. Market share metrics require, *inter alia*, a reasonably accurate definition of the market, and for telecommunications such a definition is increasingly untenable: consumers, for example, see no distinction between calls that cross LATA boundaries and those that do not. Technological change also contributes to the convergence of markets because the same technology can be used to provide service in different markets.

Third, metrics tests based on network components, such as access lines, ignore the large differences in usage by different customers, while metrics based on usage exclude significant volumes of traffic that are carried over dedicated lines or private networks. Given the substantial changes in entry conditions and strategies, any market share metric would understate the degree of competition.

From an economic perspective, the best measure of the competitive conditions in a market or market segment is the openness or "entry conditions" in the segment. This is especially true of a recently deregulated market. Much of our affidavit explores the openness of the local exchange business in Michigan. We examine the economic impact of institutional arrangements (such as laws and regulations) that might hinder or assist entry into the local exchange and the economic conditions of demand and supply that might also affect the ease of entry into market segments. The remainder of this section addresses, from an economic perspective, how carriers determine the means by which they will provide service and what the provisioning decision implies for competition.



### *1. The Provisioning Decision*

A major decision for an entrant into the local exchange business is determining how it will provision the services it seeks to sell to customers. As a threshold matter, the entrant must decide whether to provide services (1) by reselling the incumbent's wholesale services and adding its own marketing, billing, customer service and other support functions, or (2) by engineering and assembling its own facilities. If the entrant chooses the facilities-based approach it must then decide the extent to which, in assembling its own facilities, it will construct facilities from scratch or lease the facilities of other carriers, including the incumbent local exchange carrier. The entrant also can elect to pursue a mix-and-match strategy of resale, self-provisioning, and leasing facilities from other carriers. Each provisioning strategy has its own set of costs, risks, and potential rewards in terms of anticipated profitability.

According to our understanding of the Act, entrants provisioning local exchange services using only the resold services of other carriers do not meet the 271(c)(1)(A) condition for a BOC to gain interLATA relief because the entrant, it is argued, would not have control over its "own" facilities.<sup>6/</sup> For this reason we concentrate our attention on the economic characteristics of facilities-based competition and the economic meaning of providing services exclusively or predominantly over an entrant's own facilities.

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<sup>6/</sup> From an economic viewpoint, however, it turns out that resale has an important disciplining effect on the local exchange market segment, as we describe later.

## 2. *Economic Characteristics of the Make vs. Buy Decision in the Provision of Facilities-Based Local Exchange Services*

### a) *Cost Considerations of the Make vs. Buy Decision*

Firms will invest in their own production facilities, rather than outsource production, only when it is economically desirable to do so. This may be referred to as the “make-versus-buy” decision. All else being the same, local exchange competitors will invest in infrastructure (build networks) when the economics are superior to outsourcing (leasing unbundled network elements).

The two major cost factors in the make-versus-buy decision are the differential “hard” costs associated with each alternative, and the differential governance or “management” costs associated with each alternative, meaning primarily the organizational costs associated with running the business under each alternative.<sup>2/</sup>

By hard costs we mean the types of costs associated with procuring the equipment and personnel that are at issue in the make-versus-buy decision. Hard costs include purchase and installation costs of infrastructure and network equipment; alternative purchase or lease costs associated with leasing unbundled network elements from other suppliers; and other costs associated with establishing and operating the business that might differ between the two situations. Comparing these relative costs is a straightforward business planning exercise which we need not detail further.

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<sup>2/</sup> See Oliver Williamson, The Economic Institutions of Capitalism, (NY Free Press), 1985 Chapters 3 and 4.

Governance costs, however, require a more detailed analysis. Differential governance costs refer to the additional vulnerabilities (if any) that a business assumes by relying on an outside provider over whom it has less control than if supply were provisioned internally. The additional vulnerabilities of going to an outside supplier will vary according to the reputation of the supplier, whether the buyer and supplier have expectations of future business with each other, and the institutional framework governing contracts.<sup>8/</sup>

A new entrant's decision to make infrastructure investments or contract with Ameritech (thereby taking advantage of Ameritech's unbundled elements) depends on the interplay of hard costs and governance costs. Situations can easily be envisioned where a firm might want to make an infrastructure investment due to its perception of governance costs, but where the hard costs — in part determined by rules that favor leasing over building — tip the scale toward the leasing alternative. Moreover, where governance costs are perceived to be low (because the entrant has confidence in the supplier or in the efficiency of the contracting process) and the same pricing rules apply, one would not expect to see much self-supplied infrastructure investment by the entrant.

The Act has a significant impact on both the hard costs and governance costs associated with the make-versus-buy decision. For hard costs, the Act sets out pricing rules for unbundled network elements that limit prices to a cost-plus-a-reasonable-profit

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<sup>8/</sup> Although our discussion of outsourcing refers to "additional" governance costs, these "additional" costs could in fact be negative, as in the case where there is internal labor turmoil (the contract between employer and employee).

standard.<sup>9/</sup> Under the FCC's interpretation of the standard, prices are based on the costs that a hypothetical efficient entrant would incur if the entrant were to rebuild the incumbent local exchange company's existing network configuration using the best available technology.<sup>10/</sup> Although the FCC's rules implementing this theory have been stayed by the United States Court of Appeals for the Eighth Circuit, adoption of the concept would certainly contribute to a lease rather than build decision.<sup>11/</sup> After all, it would be very difficult for an actual entrant, which itself may have some legacy plant, to be more efficient than a hypothetical entrant using state-of-the-art technology. Moreover, leasing enables the entrant to synchronize the provision and sale of services. That is, with leasing, the new entrant can avoid whatever lumpiness exists with respect to facilities-based provision of services by deploying readily-available leased facilities as demand grows.

The Act also reduces governance costs associated with the leasing of elements. The Act provides that (1) the incumbent local exchange company make unbundled network elements available for use by other providers of local exchange services on a nondiscriminatory basis; (2) the incumbent not withdraw those offerings; and (3) the entrant have exclusive use of an unbundled facility for a period of time.<sup>12/</sup> And because

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<sup>9/</sup> 47 U.S.C. § 252(d)(1).

<sup>10/</sup> 47 C.F.R. § 51.505(b)(1) (Stayed).

<sup>11/</sup> Ameritech, while having reservations about the methodology, has adopted it for pricing unbundled network elements in its arbitration cases, with the caveat that those prices will be adjusted to reflect the court's final decision.

<sup>12/</sup> 47 U.S.C. § 251(c)(3); 47 C.F.R. §§ 51.307, 51.309 and 51.311.

interconnection agreements are public, the usual hazards associated with a lack of competitive information are eliminated. Indeed, the Act entitles competitors to take advantage of the terms of any more favorable interconnection agreement the incumbent strikes with any other carrier.<sup>13/</sup> Finally, perhaps the most stringent safeguard reducing the governance costs of leasing unbundled elements is that if an incumbent local exchange company attempts to restrict the use of unbundled network elements the FCC may revoke the company's authority to provide in-region interLATA services.<sup>14/</sup>

Accordingly, economic analysis of the provisions of the Act suggests that the fundamental reason for a new entrant to invest in infrastructure is attenuated by the implementation of pricing rules that reduce the hard costs of leasing compared to building; by rules that reduce governance costs otherwise associated with leasing; and by regulatory penalties should the incumbent local exchange carrier be found to be restricting the use of unbundled elements.<sup>15/</sup>

Although the make-versus-buy decision is shaped by the relative costs of each alternative (and these costs include both hard costs and governance costs), for purposes of competitive assessment, the leasing of network elements is economically equivalent to self-supply: as a practical matter, competitive facilities necessarily must include those that

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<sup>13/</sup> 47 U.S.C. § 252(i).

<sup>14/</sup> 47 U.S.C. § 271(d)(6)(A)(iii).

<sup>15/</sup> That a CLEC is not required to make volume and term commitments further reduces its incentive to invest in infrastructure.

are controlled by all supply contracts, as well as those controlled by ownership rights.<sup>16/</sup>

Indeed, AT&T's strategy for building facilities validates our interpretation and understanding of the equivalence between self-provisioned facilities and leased facilities from an economic and competitive standpoint. According to Harry Bennett, AT&T Vice President and General Manager of Local Service:

"We're building in Chicago and Los Angeles right now. But when I say 'build,' I don't necessarily mean we're physically digging up the streets and laying our own fiber. If there is a CAP there, or if the RBOC's unbundled prices are competitive, we'll use their facilities. *By definition of the Telecom Reform Act, that is the same as being a facilities-based carrier.*" (emphasis added).<sup>17/</sup>

b) *Non-Cost Considerations of the Make-versus-Buy Decision*

There is a second consideration in assessing the extent to which a competitor will use predominantly self-supply versus leasing in the provisioning of local exchange service. In competitive markets, successful companies make decisions on internal sourcing versus outsourcing based on the "strategic" importance of a given element in the production process. Companies in competitive markets strive to gain competitive advantage by bringing products and services to market ahead of the competition, offering unique services and features, and reducing costs. To achieve these objectives, many companies have adopted outsourcing (to varying degrees) because it enables them to gain flexibility and reduce

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<sup>16/</sup> Accordingly, for purposes of competitive assessment, self-supplied facilities and leased unbundled network elements are economically equivalent, and are clearly distinct from resale of services over the incumbent's facilities.

<sup>17/</sup> "AT&T Plots Invasion of Baby Bell Turf," *Network*, July 8, 1996, p. 1, 53.

overhead costs.<sup>18/</sup> For example, IBM was able to deliver its PC to the market in record time because it outsourced both hardware and software components, rather than developing them in-house. IBM clearly was the producer of the PC, as it designed, assembled and distributed millions of these units, even though it produced very few of the hardware or software components.

The principle of outsourcing elements, while controlling the strategic assets, applies to companies providing telecommunications services, too. New facilities-based local exchange entrants can create competitive advantage without making extensive investments in infrastructure. The new entrants will do so by installing or leasing facilities that are critical to the value of the telecommunications services being offered, and reselling services when they are not. Put differently, investment in infrastructure is desirable only where such infrastructure is critical to competitive advantage. Indeed, it can be a handicap to invest in owned facilities when leasing is a viable alternative.

In light of the Act (which requires the incumbent to share the benefits of its ubiquitous network), the switch is the single most important part of a telecommunications network in terms of providing the locus of competitive advantage. The switch not only manages the routing of calls through the network but also provides the end-user with value-added features and functions. For example, it is the switch that recognizes when the phone is taken off the hook and provides dial-tone so a customer knows that he can place a

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<sup>18/</sup> Henry W. Chesbrough and David J. Teece, "When is Virtual Virtuous?" *Harvard Business Review*, January-February 1996, pp. 65-73.

call, and it is the switch that sets up the call path. It is also the switch that provides SS7 features, such as call waiting and caller ID, and the new advanced intelligent network (AIN) features such as voice response, advanced conferencing services, and customized call distribution and message treatment. As a result, it is through the basic and value-added switching features that competitors will strive to differentiate themselves.

New entrants can take advantage of these powerful switching capabilities with minimal investment. Because transport costs are low and declining, switches do not have to be in close proximity to a customer to provide local exchange service.<sup>19/</sup>

For these reasons, control of switching capacity is the source of the competitive advantage, and additional self-provisioned transport and access may provide no additional competitive advantage compared to leased transport and access. Accordingly, we expect that entrants seeking to deploy capital most profitably will use the unbundling alternative for many of their non-strategic plant needs, but not for switching. This prediction is borne out by the choices of competitors thus far — no new entrant has ordered unbundled switching from Ameritech.

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<sup>19/</sup> For example, MFS is currently providing switching services for customers in Portland, Oregon through a switch in Seattle. See "Intercom Group, MFS Gains Strong Buy Recommendation From Investment House," *Fiber OpticsNews*, February 26, 1996.



### **III. ASSESSING COMPETITION IN LOCAL EXCHANGE SERVICES**

We turn now to an assessment of the openness of the local exchange market to competition. In this section we describe how the Act, the structure of consumer demand, and technological advances are expected to affect local exchange entry requirements and competitive entry itself. We also discuss how the factors combine to create a logical, relatively low-risk entry path for the new competitors.

#### ***A. How the Act Affects Competitive Entry Requirements***

From the perspective of competitive entry requirements in the local exchange business, the most important feature of the Act is the requirement that incumbent local exchange companies interconnect new entrants. The interconnection obligation ensures that the economics of a ubiquitous local exchange network are available to all entrants — not just the incumbent.

The rules regarding the pricing of unbundled network elements also have a major impact on the entry requirements and on the method of provisioning that entrants select. So long as the prices charged for unbundled network elements are averaged across geographic areas, entry will be encouraged into areas that would otherwise not be economic because geographically averaged prices contain subsidy flows. Consequently, entrants will build their own facilities where the economic cost of infrastructure is lower than the averaged price and entrants will lease unbundled elements (or will resell Ameritech services) in areas where the economic cost is above averaged price.

Interexchange carriers have an additional incentive to self-supply their own switching facilities for local exchange service. Under the Act, if a long distance carrier provides its own switching and uses other unbundled elements, it does not pay access charges on the long distance calls it terminates to local customers served by its own switch. See 47 C.F.R. § 51.509(b).

In addition to its interconnection and pricing requirements, the third important feature of the Act is that it indirectly produces strategic incentives for interexchange carriers to delay local exchange entry. Entry by AT&T into the local exchange market segment will certainly increase the desire of regulators to permit Ameritech to provide in-region interLATA toll service. Further, Professor MacAvoy has assembled evidence that such entry would challenge the oligopolistic practices of the long distance providers and make that market segment more competitive, as described in his affidavit. And as Dr. Crandall and Professor Waverman demonstrate in their affidavit, AT&T's cash flow relative to its gross assets is about double that of Ameritech. This compounds AT&T's incentives to delay because the return to AT&T's local exchange entry may well be less than the loss due to Ameritech's entry into long distance.<sup>20/</sup> Given these circumstances, we would expect that a firm such as AT&T would strategically delay its local exchange entry if such an action would delay Ameritech's entry into long distance.<sup>21/</sup>

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<sup>20/</sup> See Affidavit of Drs. Crandall and Waverman.

<sup>21/</sup> Professor MacAvoy's estimate of \$400 million per year in increased consumer welfare in Michigan as a result of Ameritech's entry in the interLATA market translates into about \$33 million of lost consumer welfare per month of delay. See Affidavit of Paul MacAvoy.

***B. The Role of Consumer Demand in Shaping Competitive Entry***

The structure of consumer demand also affects entry requirements and therefore shapes competitor's entry strategies into the local exchange market segment. There are two important dimensions of consumer demand that must be highlighted. First, customers, and therefore revenues, are geographically concentrated in Michigan. Accordingly, one can expect entry to be focused. Second, according to market research, local exchange customers express a preference for "bundled" or "integrated" services. This means that many customers prefer to obtain local and long distance from a single provider.

In the Ameritech region, customers and customer demand are concentrated into relatively small geographic areas. Concentration of revenues makes it logical for entrants to target their entry to specific geographic regions and specific customer profiles, especially if the areas of concentrated revenues also have low costs of service. In Michigan, the Detroit metro area and some of the commercialized suburban areas have the highest teledensities (number of telephone lines per square mile) in the state, as well as some of the highest total spending on telecommunications per line. These conditions create revenue-rich, low-cost areas that will be especially attractive to new entrants.

Our analysis of Ameritech's wire centers shows that the top 10 percent of the wire centers served by Ameritech Michigan generate 49 percent of the company's business revenue and contain about 45 percent of business access lines.<sup>22/</sup> The top 20 percent of wire centers generate 72 percent of the company's business revenue and contain about 70

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<sup>22/</sup> Calculations are based on Ameritech Michigan 1995 revenue and access line data.

percent of business lines. By contrast, the bottom 50 percent of Ameritech's Michigan wire centers generate only about 6 percent of business revenue and contain about 6 percent of the business lines.

The same picture emerges when residential revenues and lines are considered. Ten percent of Ameritech's wire centers produce 44 percent of the revenues from the residential sector and contain 40 percent of residential lines. The top 20 percent of wire centers produce 67 percent of residential revenues and contain 62 percent of residential lines. The bottom 50 percent of wire centers, however, produce only 8 percent of Ameritech's residential revenues and contain about 11 percent of the residential access lines.

Competitors can focus on concentrated geographic areas with high teledensities and ignore outlying areas. By doing so, competitors can address the vast majority of Ameritech's revenues and customers without the need for widespread operations. Even firms that choose to serve both business and residential customers can find joint concentration of both business and residential revenues: Our analysis of Ameritech's wire centers shows that about 70 percent of the top 50 wire centers for business revenues also are in the top 50 residential wire centers.

In sum, the highest revenues and lowest costs are concentrated in geographic areas that are easily identified and targeted by entrants. When geographical concentration is combined with public policies that require price averaging across customer classes, entrants

will seek entry into areas whose price/cost margins are high while ignoring unprofitable ones.<sup>23/</sup>

The structure of consumer preferences affects competitive entry in a second important way. It turns out that many customers, especially those in the mass market and small and medium business segments,<sup>24/</sup> prefer "bundled" services or integrated service packages. A study of 800 consumers recently completed by MTA-EMCI found that over 80% of all consumers would be likely to buy a bundled package of two or more telecommunications services from a single provider.<sup>25/</sup> A survey by J.D. Power of 6100 customers found that 65% would be interested in purchasing all of their telecommunications services from a single provider.<sup>26/</sup> The demand for bundled services is characterized by a strong preference for both local and long distance service: 70% of all consumers who desired bundled telecommunications services preferred a package that included some combination of local and

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<sup>23/</sup> Another implication is that many customers will enjoy competitive alternatives simply because of the concentration of revenues and access lines in their area.

<sup>24/</sup> We distinguish between mass market and small/medium business on the one hand and large businesses (especially those with their own telecommunications departments) on the other. The latter are more likely to be willing and able to integrate packages themselves.

<sup>25/</sup> "Branding and Bundling Telecommunications Services: Telephony, Video and Internet Access," *MTA-EMCI Telecommunications Consultants*, August 1996, p. 142.

<sup>26/</sup> J.D. Power and Associates, Residential Long Distance Service Report, 1996, p. 10. Also, a Unisys and Telephony Magazine Survey found that close to 75% of residential customers prefer a single provider for all telecommunication needs, "Survey Says IXC's Have Edge In Offering One-Stop Shopping" *Common Carrier Week*, Nov. 13, 1995. See also BellSouth Survey, Michael Kanell, "Telecom Packages: One-Stop Shopping," *The Atlanta Journal and Constitution*, July 14, 1996, p. 8.

long distance service.<sup>27/</sup> The trade press is replete with examples of entrants that recognize consumer desire for bundling.<sup>28/</sup>

### *C. The Role of Technology in Facilitating Competitive Entry*

New technologies represent the third factor influencing competitive entry. New technology makes it cheaper and easier for non-CLECs and CLECs to enter the telecommunications business. New technology benefits non-CLECs (which is to say businesses whose core is not telecommunications) by making PBXs cheaper and easier to use, and new technology benefits CLECs by reducing transport, access, and switching costs. For example, CLECs can use wireless T-1 services to obtain transport and access (loop) services

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<sup>27/</sup> "Branding and Bundling Telecommunications Services: Telephony, Video and Internet Access," *MTA-EMCI Telecommunications Consultants*, August 1996, p. 144. Calculated from percentages given in Table 7.2 of the MTA-EMCI study.

<sup>28/</sup> For example: "Our strategy is to convert long-distance customers into customers for a broader combination of services, which may include local, on-line, wireless, and entertainment delivery services. We plan to enhance our bundled service by offering a single point of contact, seamless customer care, and one monthly bill for end-to-end services that meet a customer's particular needs and interests." *AT&T Special Report to Shareowners*, September, 1996.

"We're creating a new global company that people can rely on for a variety of communications and information services - anytime, anywhere. We intend to offer customers as little or as much as they want, in whatever combinations - or 'bundles' - they want." *Id.*

"In a few years, the distinction between local and long distance may be obsolete. Companies will be competing to provide end-to-end service of all kinds ... [O]ur approach at AT&T is to offer customers bundles of service, arranged to give the customer the most value. For starters, this will include bundles that combine local, long-distance, wireless, on-line services, and even direct broadcast television." *Robert E. Allen, Keynote Speech to CompTel Convention*, February 26, 1996.

in concentrated downtown areas, where tearing up the streets is costly, and in sparsely populated suburban areas that are economically unattractive for hard-wired solutions.

Technological change also permits entrants to leap-frog incumbents. The products and services that can be offered using the SONET ring technology are the equal of, and in some cases are superior to, the services that can be offered over the copper wire network, especially for many broadband applications. This demonstrates an instance where the value of the incumbent's legacy network may be reduced by technological progress.

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In sum, the provisions of the Act provide an institutional framework for competitive entry. The Act provides for the removal of institutional barriers and offers affirmative assistance to new entrants. New entrants are provided with the benefits of incumbency, without the liabilities. Moreover, the march of new technology has yielded significant opportunities to new entrants. Taken together, the provisions of the Act plus the economic fundamentals of consumer demand and production technology provide various entry paths that allow carriers to minimize their initial capital costs while building their base of local exchange customers.

Resale, as mandated by the Act, presents a low-cost, low-risk way of entering the local exchange business. If they so choose, firms can enter with virtually no capital or self-provided infrastructure investment. Importantly, the availability of resale enables new entrants to build a customer base before making more significant contractual or investment commitments that depend on the entrant's achieving a certain size of customer base. The

next level of participation involves the use of unbundled network elements, where the entrant self-supplies the critical assets (e.g., the switch) and leases unbundled transport and loops from the incumbent. Finally, the entrant can self-provide switching, transport, and loops in areas where the concentration of customers is greatest.

The point here is that resale, unbundled elements, and self-provisioning can each be selectively employed to implement a viable entry strategy, tailor-made for each new entrant. Profitable entry requires a judicious melding of these elements. The three strategies can be used simultaneously by an entrant, depending on the economics of the specific situation. Under a mix-and-match strategy (sometimes called “smart build”), a new entrant can self-provision the switch and use other firms (including the incumbent) to provide transport and loops. Even in areas where it is most economical (in terms of hard costs and governance costs) to self-provide all of the network elements, the entrant can first obtain unbundled transport and loops from the incumbent on a month-to-month basis, and then, when traffic is sufficient, install its own facilities. The cash flow from services provided during the interim helps finance the self-provision of the transport and loop facilities, while the month-to-month nature of the leases shifts the provisioning risk from the entrant to the incumbent.



#### IV. LOCAL EXCHANGE COMPETITION IN MICHIGAN

We now assess the entry requirements into the local exchange business in Michigan by examining the rate at which competition has developed and continues to develop in that market segment. We have collected and evaluated evidence of local exchange competitive entry and analyzed that evidence to determine whether the local exchange market is open to competition.

Part A of this section demonstrates the openness of the local exchange market in Michigan from a “macro” perspective by examining the degree of success that competitors are having in expanding their competitive presence. All else being equal, high growth rates by entrants are consistent with low entry requirements.

In Part B we take a “micro” perspective and seek to determine whether the entrants have shown themselves to be viable. The success of any individual firm is not a prerequisite to concluding that a market is open and competitive. However, the fact that current entrants are successful and growing provides evidence that the market is conducive to entry. We therefore examine the services existing competitors are providing, how they are provisioning the services, the geographical and customer classes they are targeting, and how their owners—the shareholders—view their activities, plans, and prospects.<sup>29/</sup>

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<sup>29/</sup> In particular, we examine capital market evidence to determine whether the firm’s owners express confidence in the firm’s future.